

Exhibit 43

STATE OF NEW YORK: COURT OF CLAIMS

MARTIN TANKLEFF,

**AFFIDAVIT OF
DR. BONNIE SCHNITTA**

-against-

THE STATE OF NEW YORK.

**Claim No. 118655
(Hon. Lopez-Summa)**

STATE OF NEW YORK)

ss.:

COUNTY OF SUFFOLK)

DR. BONNIE SCHNITTA, being duly sworn, deposes and says:

1. I am currently president of SoundSense, LLC, an acoustic engineering and consulting company, located at 46 Newton Lane, Suite One, East Hampton, New York.
2. I hold a bachelor's degree in Mathematics from Purdue University, a master's degree in Mechanical Engineering from Tufts University, and interdepartmental Ph.D. work in Math, Computer Science, and Electrical Engineering with a focus on signal processing from University of Miami at Coral Gables.
3. In 1990, I was known by my married name Dr. Bonnie Schnitta-Israel.
4. I was retained by the defense as an expert in the audibility of sound in the case of *State v. Martin Tankleff* (Indictment Nos. 1290-88 and 1535-88) in 1990.
5. I testified under oath at trial in the matter of *State v. Martin Tankleff* (Indictment Nos. 1290-88 and 1535-88) on June 14, 1990. My testimony was based on my expertise in and my research on the science of signal processing, and was true and accurate.
6. Attached hereto as Exhibit A is a true and correct copy of my testimony from June 14, 1990, in the matter of *State v. Martin Tankleff* (Indictment Nos. 1290-88 and 1535-88).

7. Having reviewed my testimony as transcribed in Exhibit A, I would like to note two transcription errors. First, on page 4434, line 20, my address was transcribed as 289 Gann Road; my address should have read 29 Gann Road. Second, on page 4459, line 4-5, “within the closets are objects which itself are found absorbers . . .” should read “are sound absorbers.”

The Sound Experiments I Conducted at 33 Seaside Drive

8. As I explained in my testimony, in my role as an expert in this case, I conducted a set of experiments inside the home at 33 Seaside Drive, Belle Terre, New York, on March 20 and 25, 1990, to determine whether or not a scream emitted from one room, which was defined to me as the mother’s room, could be heard in a second room, which was defined to me as the son’s room. (Ex. A at 4441:4-7).
9. As I explained in my testimony, to make this determination, I modeled and tested two different scenarios. In the first scenario, I closed the doors to both bedrooms—the mother’s bedroom and the son’s bedroom. (Ex. A at 4452:10-15). In the second scenario, I closed the door to the son’s bedroom, but placed the door to the mother’s bedroom in an open position. (Ex. A at 4455: 7-9).
10. To conduct these experiments, as I explained in my testimony, I utilized several pieces of specialized equipment, specifically “two top of the line microphones to transmit the sound into a spectrum analyzer,” as well as a plotter. (Ex. A at 4441:11-13, 18-19). A spectrum analyzer is a piece of equipment used to create a visual representation of the frequency and decibel level of sound as it is transmitted from one location and received in another. (Ex. A at 4441:13-18). Decibel level is “a measure of how loud sound is.” (Ex. A. at 4441:24). A plotter is a piece of equipment that plots the visual representation

registered by the spectrum analyzer. (Ex. A at 4441:18-19). Each piece of equipment was properly calibrated on each day of testing: March 20th and March 25th. (Ex A. at 4442:3-4).

11. This specialized equipment was commonly used by experts in the field of signal processing in 1990, and was generally accepted as the appropriate equipment to use in analyzing the transmission of sound signals.
12. Attached hereto as Exhibit B is a true and correct copy of my report, bench notes, calibration documents, graphs, and equipment receipts from the experiments I conducted at 33 Seaside Drive and am describing herein. The documents attached in Exhibit B bear the bates-stamps AG006418-24 and AG006425-29.

Preparing the Environment

13. As I explained in my testimony, in preparation for conducting my sound experiments at 33 Seaside Drive, I first “establish[ed] all of the environmental factors that were in effect the night of the murder” that might have affected sound transmission. (Ex. A at 4442:15-16). Specifically, I, along with my assistant, determined what the temperature was on September 7, 1988, whether or not the heat was on in the house that day, whether the drapes in the master bedroom were open or closed and to what degree, whether there were any objects in the basement or attic that were not present on September 7, 1988, and whether the ventilation was the same. (Ex. A at 4442-3:14-5).
14. As I explained in my testimony, I also took steps to recreate the configuration of the bedding on the bed in the mother’s bedroom and in the son’s bedroom; specifically, I added a blanket and some pillows to the bed in the mother’s bedroom and a blanket and some pillows to the bed in the son’s bedroom. (Ex. A at 4443:12-17).

15. As I explained in my testimony, as the next step in preparing the sound environment inside 33 Seaside Drive, I turned on the television in the master bedroom, and lowered the volume until it was barely audible, “meaning if one were sitting on the bed . . . [one] could just barely hear the sound.” (Ex. A at 4443-44: 25-9).

Determining the Position of the Sound Source

16. Further, prior to my testing, as I explained in my testimony, I was informed of the location in the bedroom where the mother’s body was found and which side of the bed she would have been on. (Ex. A at 4444:14-17). Using this information to establish the general location of the sound source within the room, I then determined the position the mother would have had to be in to transmit the most sound, which was in a standing position facing the door leading out to the hallway. (Ex. A at 4444: 14-24).
17. Based on this information, I placed one microphone in the mother’s bedroom, on the north side of the bed, at standing height, and positioned to receive sound directed toward the door leading out to the hallway.

Determining the Position of the Sound Receiver

18. Next, as I explained in my testimony, the scenarios that I was testing on March 20th and 25th, included the assumption that Martin Tankleff was asleep, in his bed, with his head on the pillows. (Ex. A at 4445: 5-6). However, even under this assumption, my testing scenario sought to maximize reception of sound. Specifically, I modeled a scenario in which Mr. Tankleff’s “head would have been resting on a pillow, [but] neither ear would have [been] covered by the pillow and the ear would have been directed towards his door.” (Ex. A at 4445: 8-12). Although this scenario had only a very small probability of happening given the constraints of human anatomy and physiology and the layout of the

room, I used it in order to model conditions under which sound would be maximally received.

19. Therefore, I placed the other microphone “so that it was a few inches away from the pillow” and “directed towards the door itself.” (Ex. A at 4445: 15-18).

Replicating the Sound of Arlene Tankleff’s Scream

20. In order to replicate the sound of Arlene Tankleff’s scream, as I explained in my testimony, I first obtained a sample of Arlene Tankleff’s speaking voice: a videocassette recording of a party on which Arlene Tankleff was talking. (Ex. A at 4447:17-22). Using a slice of time from that video, my assistant and I captured the frequency and decibel level of Arlene Tankleff’s speaking voice. (Ex. A at 4448:2-5).

21. Next, as I explained in my testimony, having noticed that Arlene Tankleff’s speaking voice was very similar to my own, we captured the frequency and decibel level of my speaking voice. (Ex. A at 4447-8: 22-5).

22. We then compared the frequency and decibel level readings of Arlene Tankleff’s voice and my own and found the frequency and decibel level of the first harmonic—the harmonic that human beings can hear—of both our voices to be similar. (Ex. A at 4448-9; see also Ex. B at AG006421-22). We, therefore, concluded that my loudest scream would sufficiently duplicate the potential maximum scream that would have been emitted by Arlene Tankleff. (Ex. A at 4449:20-24).

The Tests

23. As I explained in my testimony, to assess the sound transmission in the two scenarios described above (see ¶8), my assistant and I conducted the test I will describe below numerous times on March 20th and 25th. (Ex. A at 4442:12-14). Comporting with the

scientific method, our purpose in repeating the test under each scenario was to ensure the accuracy and reliability of our results.

24. As I described in my testimony, after fully setting up the environment, I conducted my experiments by, first, standing in the location on the north side of the bed in the mother's room that I calculated to be the position from which sound would maximally travel from the mother's room to the son's room. (Ex. A at 4450:10-14). I based this determination on locating the position that would most reduce all significant impedances, e.g. walls and closets, between the two locations; in other words, I selected a location on the north side of the bed that would allow me to cast my voice directly towards the door: the foot of the bed facing the door itself. (Ex. A at 4450-51:10-5; 4451:10-11). This is important because sound travels in waves, and, the energy of those waves—the decibel level—will be affected by any encounter with material—e.g. air, walls, closets, and fabrics—in the environment. (Ex. A at 4450:17-25).

25. Next, as I explained in my testimony, from that position, I screamed as loudly as I could into the microphone. (Ex. A at 4451:17-18). My scream, at its maximum decibel level reached approximately 90 decibels SPL. (Ex. B at AG006422). As I explained in my testimony, in layman's terms, this can be equated with being halfway between the sound of two cymbals banging together as loudly as possible and the sound of an air hammer hitting a metal plate. (Ex. A at 4453:11-18).

26. As I explained in my testimony, my assistant and I configured the spectrum analyzer and plotter to graph and preserve the frequency and decibel level of my scream at its maximum for both the microphone located in the mother's bedroom and the microphone located in the son's bedroom. (Ex. A at 4451:17-21). While our testing was being done,

my assistant observed the equipment to visually verify that it was operating and recording properly. (Ex. A at 4451:21-25).

27. When the testing was concluded, as I explained in my testimony, I analyzed the graphs produced by the plotter and spectrum analyzer to determine whether or not a scream emitted from the mother's room could, in fact, be heard in the son's room, either with both the mother's bedroom door and the son's bedroom door closed or with the mother's bedroom door open and the son's bedroom door closed.

Results with Both Bedroom Doors Closed

28. Reviewing the spectrum analyzer plots from my testing, as I explained in my testimony, I determined that, while screaming in the mother's bedroom with both doors closed, no sound was received at all in the son's bedroom. (Ex. A at 4453:5-6; see also Ex. B at AG006424).
29. In layman's terms, as I explained in my testimony, my testing revealed that, with both doors closed, the sound heard in the son's bedroom was purely background noise. (Ex. A at 4454:24-25). Specifically, I explained to the jury that if we were to sit in the courtroom at the moment of my testimony and all talking were to cease, what we could hear would be defined as background noise—"what is always there without any other side noises coming in"—for example, a "bird chirping outside or the ocean waves." (Ex. A at 4454-55:24-4). This background noise, as I explained, would be equivalent to what was registered in the son's bedroom with both doors closed while a scream was emitted in the mother's bedroom.

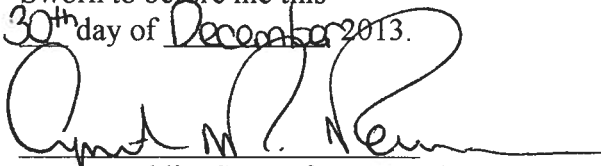
Results with Mother's Door Open and Son's Door Closed

30. Finally, reviewing the spectrum analyzer plots from my testing, as I explained in my testimony, I determined that, while screaming in the mother's bedroom with the mother's door open and the son's door closed and with the direction of the scream and the position of the microphone in the son's pillow area chosen to maximize sound transmission, the sound received in the son's bedroom was equivalent to the decibel level of the average whisper. (Ex. A at 4455-56:22-9; see also Ex. B at AG006423).

31. I have read all 30 above paragraphs, as well as the transcript of my trial testimony attached as Exhibit A, and my underlying testing documents attached as Exhibit B, and hereby swear and duly affirm that all of the information contained herein is true and correct.


DR. BONNIE SCHNITTA

Sworn to before me this
30th day of December 2013.


Notary Public, State of New York

CYNTHIA M. NEUMAN
Notary Public, State of New York
No. 01NE4772377
Qualified in Nassau County
Commission Expires May 31, 2016